

(*American Naturalist Extra*, October, 1886.)

HUMAN CEREBRAL FISSURES, THEIR RELATIONS AND NAMES AND THE METHODS OF STUDYING THEM.<sup>1</sup>—In 1873 Professor Wilder read before the Amer. Association for the Adv. of Science a paper on the fissures of the Carnivora. Since that time he has prepared for the museum of Cornell University many human brains, foetal as well as adult, and of several races; has examined nearly all the literature of the subject and published several papers on special points, the latest being "On the paroccipital, a newly recognized fissural integer" (*Jour. of Nerv. and Mental Disease*, June, 1886), and communications before the recent meeting of the Am. Neurol. Assoc. While far from satisfied on certain matters, since each fissure should be monographed, the conclusions now presented are, he believes, worthy of consideration. The study of the human fissures should be preceded by the study of the general characteristics of fissures upon some animal easily obtained at all stages of growth, and in which their arrangement is more simple. At present no help is gained from the attempt to refer the human fissures to a series of regular arches. The memorizing of their positions and names may be facilitated by regarding the cerebral surfaces simply as unexplored regions, and by learning certain fissures before others. The "landmarks" are the *mesal margin of the hemiserebrum*, the *callosum* and the *Sylvian fissure*. Accepting the usual division of each hemiserebrum into lobes, *occipital*, *temporal*, *parietal* and *frontal*, the last may be advantageously subdivided into *prefrontal* and *postfrontal* by a line continued from the *presylvian fissure*. The first fissures to be studied are the ten *interlobar*: *Sylvian*, *presylvian*, *central*, *circuminsular*, *callosal*, *occipital*, *hippocampal*, *occipital*, *preoccipital* and *preoccipital fovea*, the last three perhaps inconstant. Next the seven *constant*, *intergyral fissures with structural correlatives*: *basisylvian*, *olfactory*, *amygdaline*, *calcarine*, *collateral*, *postoccipital fovea*, and *lambdoidal* (not Owen's but one lately shown by Professor Wilder to be collocated in the foetus with the lambdoidal suture). Third, the fifteen *constant*, *intergyral fissures, without struc-*

<sup>1</sup>Abstract of paper read before the A. A. A. S. at Buffalo, Aug., 1886, by Burt G. Wilder, M.D.



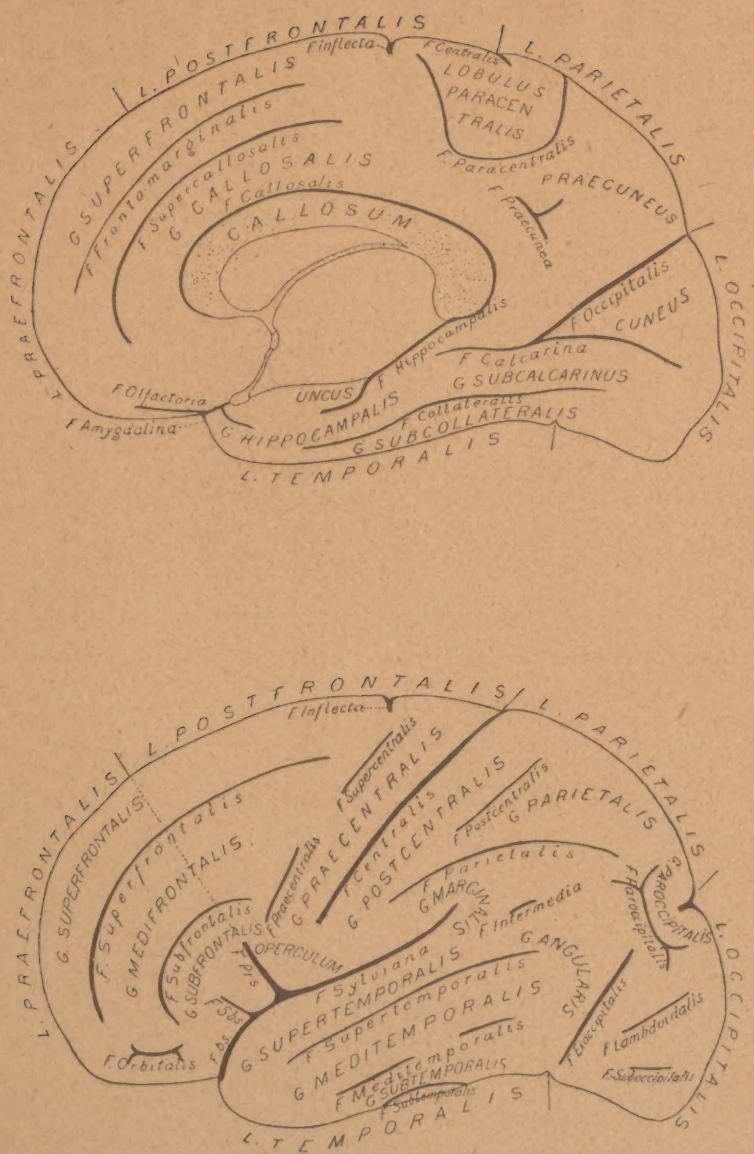
*tural correlatives: Paracentral, paroccipital, supertemporal, meditemporal, subtemporal, subfrontal, superfrontal, insular, supercallosal, orbital, precentral, supercentral (dorsal part of precentral), postcentral, parietal and precuneal.* Lastly the thirteen *intragyrals*, *inconstant fissures: Adoccipital, inflected, fronto-marginal, postcalcarine, suboccipital, preparoccipital, postparoccipital, intraparacentral, medifrontal, intermedia, subsylvian, episylvian and hyposylvian.* Total, including the *sagittal (interhemispheric)* forty-six, a larger number than before enumerated. The names are *mononyms*, selected or formed from names in common use or already proposed by some original investigator. Most of them imply either the relation of fissures to structural correlatives or their position relative to some main fissure. The same is the case with most of the *gyral* names, but a few have been correlated with the bordering fissures; *lingual* and *fusiform*, for example, are replaced by *subcalcarine* and *subcollateral*. The paper was illustrated by diagrams of the mesal and lateral aspects of the hemispheres, and by lists of the fissures grouped as above. Some of the fissures were discussed in detail, and the paper concluded with an expression of the belief that the common idea of the usefulness of the brains of monkeys as foundations for the study of human brain is erroneous, and that, contrary to the view and practice of Meynert, it is much better to examine foetal brains at various stages of growth.

#### EXPLANATION OF PLATE XXIX.

The figures are diagrammatic, but based upon a very simple, adult, mulatto brain, No. 322 in the museum of Cornell University, and they probably represent an extreme degree of fissural independence.

The *gyral* names are in capitals. The *fissural* names are in italics and commonly placed just below the fissure lines. All the names on the figures are Latin, but the English paronyms are used in the text. The abbreviations *F. prs.*, *F. sbs.* and *F. bs.* stand respectively for the *presylvian*, *subsylvian* and *basisylvian* fissures. The *exoccipital* is Wernicke's fissure, or the occipitalis anterior of Schwalbe.





Human cerebral fissures.







